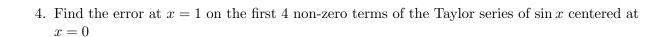
Directions: Answer each question to the best of your ability. You may use a calculator, but you must show all work to receive full credit. Each question is worth 5 points

1. Find the first 4 non-zero terms of the Taylor series of $\cos x$ about $x = \pi$.

2. Find the first 4 non-zero terms of the Taylor series of $\frac{1}{1-x^3}$ about x=0.

3. Find the n^{th} term of the Taylor series of $\frac{d}{dx}e^{x^2}$ about x=0



5. Determine the number of terms of the Taylor series for f(x) necessary to approximate $\sin 1$ to the nearest .0000000001.